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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HENNING HENNINGSSEN

Appeal 2008-4734
Application 09/402,751
Technology Center 2600

Decided: March 17, 2009¹

Before KENNETH W. HAIRSTON, MAHSHID D. SAADAT,
and KARL D. EASTHOM, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-22. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellant's invention relates to an illumination unit wherein a plurality of light emitters, in the form of light guides, are arranged to illuminate at least one illumination face via a light valve arrangement (Spec.

1). Claim 1, which is representative of the claims on appeal, reads as follows:

1. An illumination unit for point illumination of a medium comprising a plurality of light emitters comprised of light guides arranged to illuminate an illumination face via a light valve arrangement comprising a plurality of electrically controlled light valves, each of at least two of the light emitters being arranged to illuminate a plurality of light valves.

The prior art references relied upon by the Examiner in rejecting the claims on appeal are:

Lee	US 3,553,364	Jan. 5, 1971
Shibuya	US 4,619,508	Oct. 28, 1986
Sonehara	US 5,053,765	Oct. 1, 1991
Dwyer	US 5,281,960	Jan. 25, 1994
Mizuguchi	US 5,548,349	Aug. 20, 1996
Tanaka	US 5,633,737	May 27, 1997
Okamori	US 5,765,934	Jun. 16, 1998

Claims 1, 3, 4, 8, 14, 15, and 18-20 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara.

Claims 2, 5, 6, 21, and 22 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara in view of Mizuguchi.

Claim 7 stands rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara in view of Shibuya.

Claims 9-11 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara in view of Tanaka.

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara in view of Dwyer.

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Okamori and Sonehara in view of Lee.

We make reference to the Appeal Brief (filed Aug. 17, 2007), Reply Brief (filed Dec. 12, 2007), and the Answer (mailed Oct. 12, 2007), for the respective positions of Appellant and the Examiner. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant did not make in the Briefs have not been considered and are deemed waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The issue is whether Appellant has shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103. The issue specifically turns on whether one of ordinary skill in the art would have combined the disclosures of Okamori and Sonehara and, if so, whether the combination of the applied references teaches “at least two of the light emitters being arranged to illuminate a plurality of light valves,” as recited in claim 1.

PRINCIPLES OF LAW

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991), and *In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981). To reach a conclusion of obviousness under § 103, the Examiner bears the burden of producing a factual basis supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to

determine if the Examiner established a prima facie case. *In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The Supreme Court has further held that in evaluating the obviousness of combining elements, a court need not find specific teachings, but rather may consider “the background knowledge possessed by a person having ordinary skill in the art” and “the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007). “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Leapfrog Enter., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (quoting *KSR*, 127 S. Ct. at 1739). “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *KSR*, 127 S. Ct. at 1742.

ANALYSIS

1. *Rejection of Claims over Okamori and Sonehara*

With respect to claim 1, Appellant argues that Figure 2 of Okamori shows a plurality of light emitters (i.e., the light output section 216b-216e) where each light emitter is configured to illuminate an individual light valve 61, 62, 63, or 64 (App. Br. 7). Appellant further concludes that Okamori’s arrangement is concerned with a “one-to-one” relationship between light

emitters and light valves (App. Br. 8). Appellant acknowledges the Examiner's characterization of Okamori's sections 216b-216e as a plurality of light emitters comprising light guides such that, e.g., light guide 216b illuminates light valve 61 and light guide 216c illuminates light valve 62. *Id.* However, Appellant contends that Okamori does not provide at least two emitters, each illuminating a plurality of light valves. *Id.*

The Examiner responds by asserting that Okamori directs light to a "single light valve arrangement" and Sonehara teaches that a light valve arrangement may include a plurality of light valves (Ans. 9). The Examiner further points out that Sonehara was also relied on for disclosing a light shutter or LCD panel comprising a plurality of electrically controlled light valves (Ans. 10). The Examiner concludes that the combination of Okamori with Sonehara would have suggested to one of ordinary skill in the art a light emitter illuminating a light valve arrangement comprising a plurality of electrically controlled light valves. *Id.*

Initially, we observe that claim 1 recites "a plurality of light emitters comprised of light guides" arranged such that "each of at least two of the light emitters" illuminate "a plurality of light valves." While Appellant apparently intended to define the light emitter as a bundle formed by a number of light guides or light fibers (Spec. 11-12)², the recited language in claim 1 does not preclude reading a light emitter on a combination of light guides 216b-216e shown in Figure 2 of Okamori.

² This distinction between a light emitter and a light guide was acknowledged by Appellant's representative during the Hearing conducted Jan. 14, 2009.

Based on our review of Okamori and the breadth of the recited language in claim 1, we find that light guides 216b and 216c of Okamori form the first light emitter illuminating light valves 61 and 62, while light guides 216d and 216e form the second light emitter illuminating light valves 63 and 64. As such, each of the two light emitters illuminates a plurality of light valves, as recited in claim 1. We also agree with the Examiner (Ans. 10), that since claim 1 merely requires a light valve arrangement comprising a plurality of electrically controlled light valves, Sonehara's light shutter provides electrical control of the light valves in a light valve arrangement. Sonehara specifically teaches a bundle of optical fibers illuminating a plurality of light valves defined by electrodes 706 on the light shutter 700 which electrically control the light valves (Sonehara, col. 6, ll. 15-25; col. 7, ll. 18-28).

Appellant further argues (App. Br. 10-11) that electrodes 706 and 806 in Sonehara's single LCD light shutter, arranged in communication with a bundle of optical fibers, do not constitute a plurality of electrically controlled light valves. Appellant asserts (App. Br. 11) that even if such an interpretation was accurate, the deficiency of Okamori remains unresolved, since the LCD shutter of Sonehara illuminates only a single light emitter whereas the claim requires a plurality.

As stated by the Examiner (Ans. 10), Sonehara uses the LCD light shutter to control a plurality of picture elements, such as the picture element 401 shown in Figure 4, corresponding to an optical fiber at the image input end of each fiber (Sonehara, col. 5, ll. 8-17). The light valve arrangement of Sonehara provides uniform appearance to the display and minimizes

boundaries appearing on the screen created by the discontinuities between blocks of optical bundles (Sonehara, col. 2, ll. 24-34).

Additionally, contrary to Appellant's argument against the combinability of Okamori and Sonehara (App. Br. 12-14; Reply Br. 3-4), we find that one of ordinary skill in the art would have used the electrically controlled light valve of Sonehara with the light emitter arrangement of Okamori in order to achieve the above-discussed benefits of controllability and minimizing optical fiber boundaries in an optical bundle. Such modification would have been obvious based on "the background knowledge possessed by a person having ordinary skill in the art" and "the inferences and creative steps that a person of ordinary skill in the art would employ," as outlined in the *KSR* decision.

For all of the above discussed reasons, we find no error in the Examiner's position that the combination of Okamori and Sonehara discloses the claimed light valve arrangement and the light emitters arranged to illuminate a plurality of light valves and, when considered as a whole, supports the Examiner's 35 U.S.C. § 103(a) rejection of claim 1, as well as claims 3, 4, 8, 14, 15, and 18-20 which are argued together with claim 1 (App. Br. 11-14), over Okamori and Sonehara.

2. Rejection of Claims over Okamori, Sonehara, in view of Mizuguchi, Shibuya, Tanaka, Dwyer, or Lee

With respect to the remaining claims, Appellant argues that based on their dependency upon their base claim and the fact that neither Mizuguchi, Shibuya, Tanaka, Dwyer, nor Lee provides any teachings to cure the alleged deficiencies of Okamori and Sonehara, these claims are not obvious (App. Br. 14-15). For the same reasons discussed above with respect to

independent claim 1, we remain unpersuaded of any error in the Examiner's obviousness rejection. Therefore, we sustain the 35 U.S.C. § 103(a) rejection of claims 2, 5, 6, 21, and 22 over Okamori, Sonehara, and Mizuguchi; of claim 7 over Okamori, Sonehara, and Shibuya; of claims 9-11 over Okamori, Sonehara, and Tanaka; of claims 12 and 13 over Okamori, Sonehara, and Dwyer; and of claims 16 and 17 over Okamori, Sonehara, and Lee.

CONCLUSION

Because Appellant has failed to point to any error in the Examiner's position, we sustain the 35 U.S.C. § 103 rejections with respect to claims 1-22.

ORDER

The decision of the Examiner rejecting claims 1-22 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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